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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/554,794	08/14/2000	Soichiro Kawakami	839.425	1438

5514 7590 03/25/2003

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EXAMINER

WEINER, LAURA S

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 03/25/2003

/s/

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/554,794

Applicant(s)

KAWAKAMI ET AL.

Examiner

Laura S Weiner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16,23-26,28,30,32,34,35,37-41 and 43-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16,23-26,30,34,35,37-39,41 and 43-58 is/are rejected.
- 7) ☒ Claim(s) 28,32 and 40 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

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DETAILED ACTION

1. The request filed on 3-7-03 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/554,794 is acceptable and a CPA has been established. An action on the CPA follows.

Response to Amendment

2. Examiner acknowledges the cancellation of claims 17-22, 27, 29, 31 and 33 cited in Amendment D dated 2-19-03. Examiner acknowledges the cancellation of claims 36 and 42 cited in Amendment C dated 9-24-02. Claims 1-16, 23-26, 28, 30, 32, 34-35, 37-41, 43-58 have been examined on their merits.

Response to Arguments

3. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

4. Claim 11 is objected to because of the following informalities: "0.5 un" should be "0.5 um". Appropriate correction is required.

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Claim Rejections - 35 USC § 102

5. Claims 1, 7-16, 23-24, 30, 37-38, 41, 43-58 are rejected under 35 U.S.C. 102(e) as being anticipated by Turner et al. (6,203,944).

Turner et al. teaches in column 1, lines 64-67, an electrode for a lithium battery where the preferred negative electrochemical active material element is tin with molybdenum, niobium, tungsten, tantalum, iron, copper and combinations thereof. Turner et al. teaches in column 3, lines 65-67, an electrode comprising tin-molybdenum having 54 wt% tin and 46 wt% molybdenum [54 atomic%]. Turner et al. teaches in column 10, Example 1, an electrode comprising 55.2 wt% tin and 44.8 wt% copper, in Example 5 an electrode comprising 65.5 wt% tin and 34.5 wt% niobium and in Example 6 an electrode comprising 43.7 wt% tin and 56.3 wt% tungsten. Turner et al. teaches in column 5, lines 7-12, that the crystalline regions are very small and these dimensions are no greater than about 500 angstroms preferably not greater than about 50 angstroms. Turner et al. teaches in column 16, lines 29-42, that the electrodes were 86% by weight powder, 8% by weight of Super S carbon black and 6% by weight of polyvinylidene fluoride. Turner et al. teaches in column 17, Example 10, that the electrode contained 60.6 atomic % tin, 30.3 atomic % iron and 9.1 atomic% carbon and x-ray diffraction data suggests that the electrode contains a mixture of an Sn₂Fe phase and a carbon phase.

6. Claims 1, 12, 24-26, 30, 34-35, 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Peled et al. (5,283,136).

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Peled et al. teaches in column 2, lines 32-68, novel anodes for lithium alloy electrochemical cells in which the anodes may comprise in addition to lithium, aluminum and magnesium, one or more of Ga, Cd, Zn, Sn, etc which will comprise not more than about 40% of the total anode weight and may further comprise C, P, Fe, Ni, Cu, Co, etc. Generally such anodes contain up to about 30 weight% of lithium or from 5-15 wt%, 20-75 wt% of aluminum and 5-60 wt% of magnesium. Peled et al. teaches in column 6, Example 4 that the anode was a composition comprising lithium metal, magnesium metal, aluminum metal, gallium metal and tin metal.

Claim Rejections - 35 USC § 103

7. Claims 2-6 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Turner et al. (6,203,944).

Since Turner et al. teaches the same anode electrode material comprising a SnAX alloy where X is optional which comprises a transition metal element then inherently the same SnAX alloy exhibiting a peak in a range of 25-50 degrees would have the same half width must also be obtained.

In addition, the presently claimed half width property would have obviously have been present once the Turner et al. product is provided. *In re Best*, 195 USPQ 433 (CCPA 1977).

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Allowable Subject Matter

8. Claims 28, 32, 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Neudecker et al. (6,242,132) teaches silicon-tin oxynitride glassy composition and use as anode for lithium-ion battery. Neudecker et al. teaches in column 5, lines 28-50, that Idota et al. discloses a $\text{SnSi}_{0.8}\text{Al}_{0.2}\text{P}_{0.2}\text{O}_{3.4}$ anode assembly. Neudecker et al. teaches in column 6, Table 1 and lines 58-60, $\text{Li}_{3.5}\text{SiSn}_{0.8}\text{O}_{1.20}\text{N}_{1.72}$ and $\text{Li}_x\text{Si}_a\text{Sn}_b\text{C}_c\text{O}_y\text{N}_z$ are known.

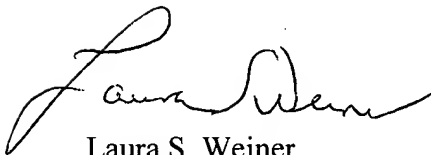
Ovshinsky et al. (4,537,67) teaches that $\text{Co}_{77}\text{Ni}_6\text{Sn}_{17}$ material composition for anodes are known.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura Weiner whose telephone number is (703) 308-4396. The examiner works a flexible schedule.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan, can be reached at (703) 308-2383. The fax phone number for non-after finals is 703-872-9310 and the fax phone number for after-finals is 703-872-9311.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink, appearing to read 'Laura S. Weiner', with a stylized, cursive script.

Laura S. Weiner
Primary Examiner
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March 20, 2003